UAM Weather Research and Development

Presented to: Community Integration Working Group: UAM Weather

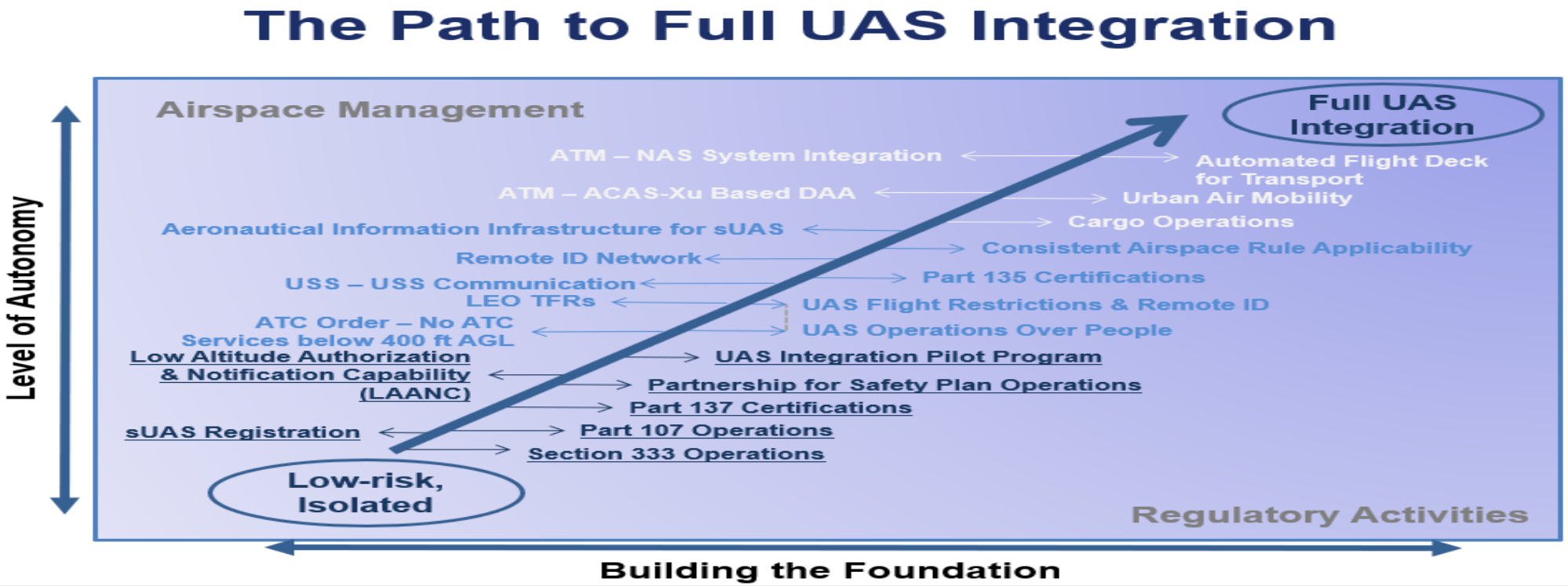
By: Kevin Johnston
Aviation Weather Division
kevin.l.johnston@faa.gov

Date: August 6, 2020

Federal Aviation Administration

FAA Vision for UAS

- To integrate unmanned aircraft into civil airspace while ensuring the safety and efficiency of the National Airspace System (NAS)
- Goal will be achieved through incremental steps as technology, policies, operational procedures and automation evolve



FAA UAS Integration Research Plan (2019-2024)

- Presents framework to manage UAS-related research activities for safe integration of UAS into the NAS
- FAA worked with partners across industry, academia, and federal agencies to compile a comprehensive list of research, forming the backbone of this five-year rolling Plan
- Identifies possible gaps in current research that should be explored and aligns with the Agency's strategic priorities and initiatives
- Supports key FAA missions and functions to publish regulations, policies, procedures and guidance

FAA UAS Integration Research Plan (2019-2024)

- Identifies Weather as one of 12 Focus Areas
  - Other Areas include Command and Control, Human Factors, Environment, Communication, Detect and Avoid, Navigation, Reliability, Safety Management, Security, Surveillance, Traffic Management
- Focus Area defined as representing a key challenge for the safe and effective integration of UAS operations in the NAS
- Research activity under focus areas inform policy, procedures, capabilities and systems, requirements and other research outcomes to enable UAS integration
- Weather R&D just getting going…..

R&D Priorities for UAM Weather

- Determine the Micro-Scale Weather Information Gaps
  - Are experiments determining what the critical weather thresholds are?
  - Are Manufactures providing weather limitations on their vehicles?
  - Do we know what weather phenomena to test against?
  - Do we have the technology and capability to measure those weather phenomena at a temporal and spatial scale they require for their thresholds?
- Focus R&D on what we find out about the Gaps